Version 7.6.0

New Features & Improvements

THE UNIVERSITY OF CHICAGO MEDICINE & BIOLOGICAL SCIENCES

CENTER FOR RESEARCH INFORMATICS

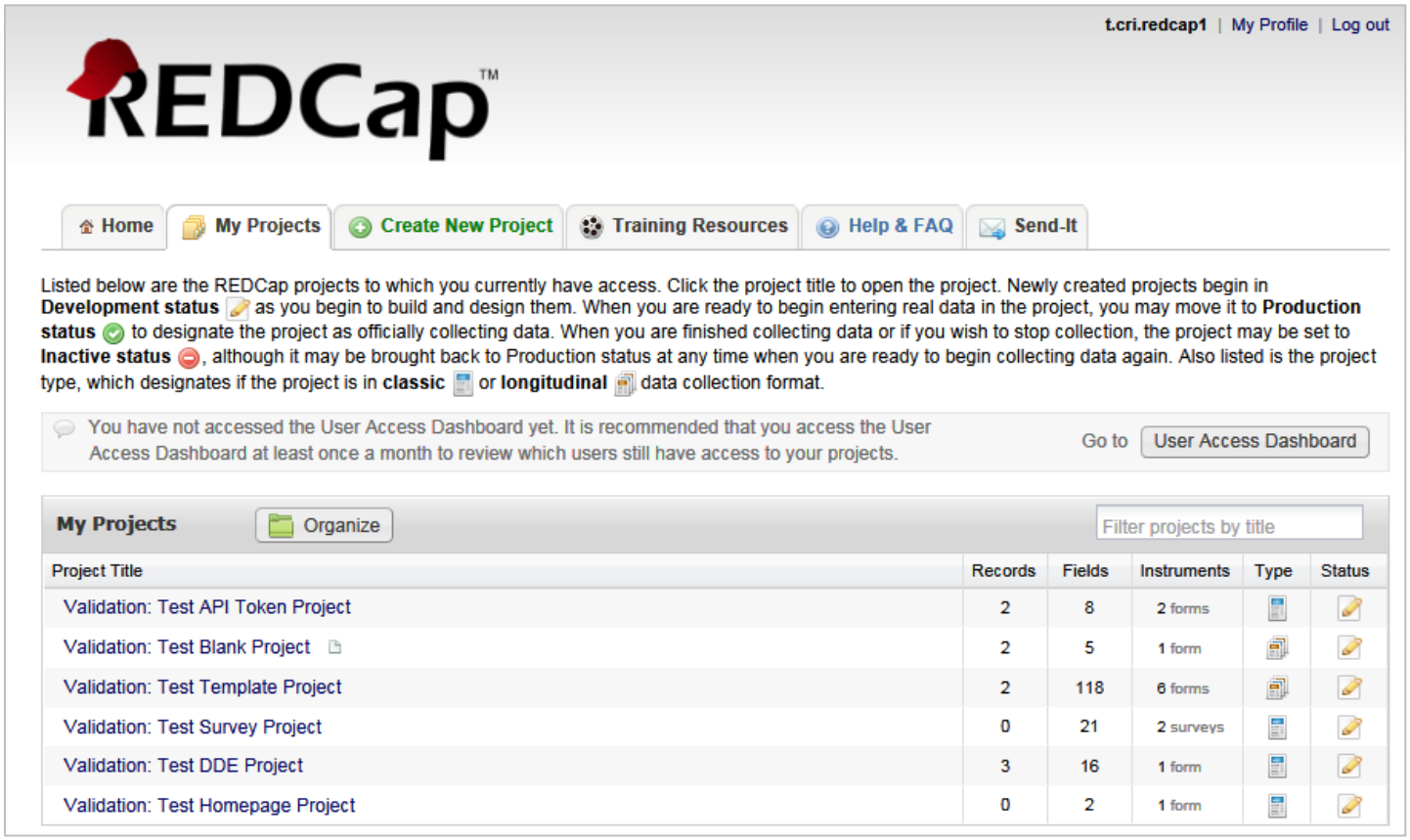
Version 7.6.0 - © 2017 Vanderbilt University

NEW FEATURES:

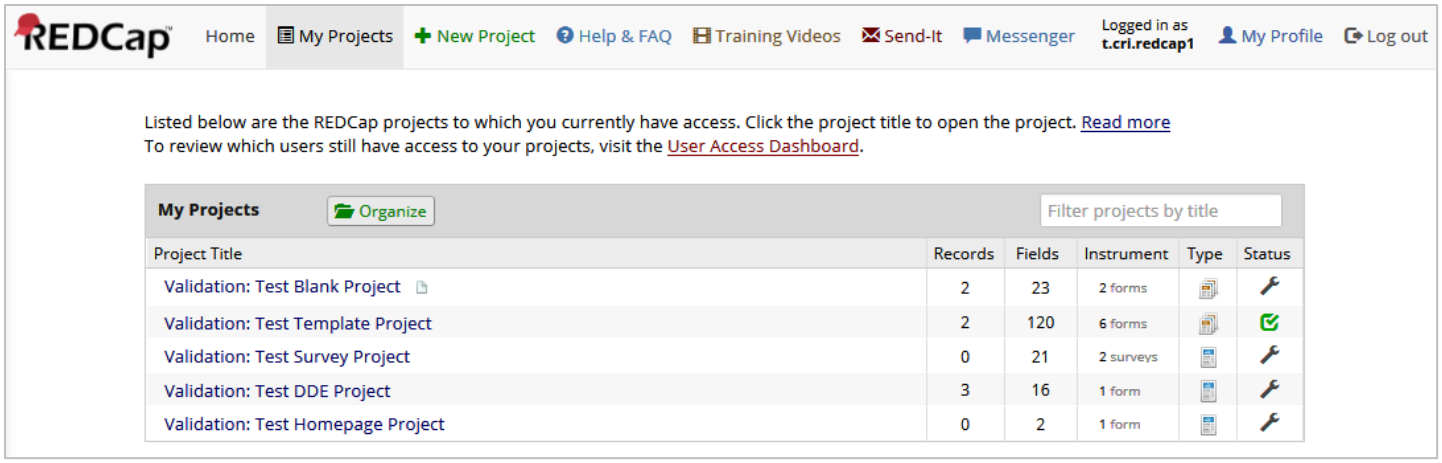
•New Interface

A new look and layout is presented, and the base font is now Open Sans (previously Arial). The new font is slightly larger in size, providing better readability. New font "Open Sans" is available to use on surveys.

Old interface:



New interface:

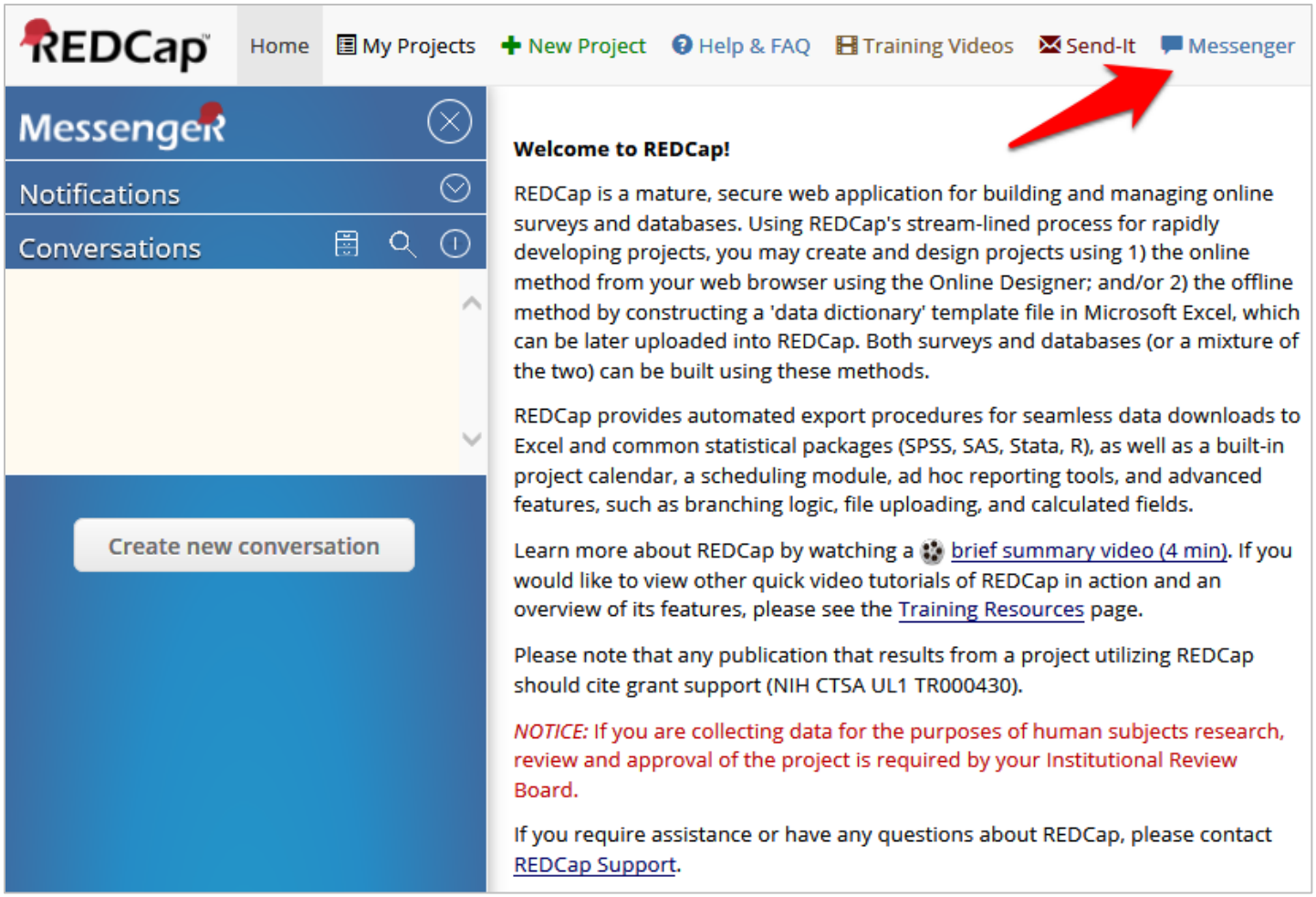


•REDCap Messenger

REDCap Messenger is a communication platform built directly into REDCap. It allows REDCap users to communicate easily and efficiently with each other in a secure manner. At its core, REDCap Messenger is a chat application that enables REDCap users to send one-on-one direct messages or to organize group conversations with other REDCap users. REDCap Messenger is also the best and easiest way to share documents with other REDCap users, in which you can upload documents and embed pictures inside any given conversation.

◦View more info here

◦Watch 10-minute video on REDCap Messenger



•Repeating Instruments and Events

◦REDCap has the ability to repeat a data collection instrument or an entire event of instruments an unlimited number of times without having to specify the amount needed. This is sometimes called one-to-many data collection, in which a project can have one or more repeating parts. The repeating instruments/events feature can be enabled and set up by clicking the Enable button in Optional Modules on the Project Setup page.

◦Enabling Surveys for Repeating Instruments: If one wishes to allow survey respondents to enter their responses in a repeating fashion in survey mode alone, one must enable an optional setting near the bottom of the Survey Settings page (in the survey termination options section) *after* an instrument has been set as a repeating instrument. So it is one additional step to do after enabling the instrument itself as a repeating instrument. When the repeat survey setting is enabled, it will display a button at the end of the survey so that the respondent can choose to enter another response for the survey, thus essentially allowing them to take the survey multiple times in a row. In this way, they will be able to enter as many responses for that same survey as they need.

◦Reports and Data Exports with Repeating Instruments and Events: If one creates a report that contains data from a repeating instrument or repeating event, a field named 'redcap_repeat_instance' will be included that represents the instance number, which is an auto-numbered value (starting with '1') that gets incremented each time the instrument/event is repeated. And if the report contains data specifically from a repeating instrument (as opposed to a repeating event), then a field named 'redcap_repeat_instrument' will additionally be included that represents the instrument name that denotes to which instrument the row of data belongs. These two fields will only be included automatically in the report or data export if data originates from a repeating instrument or event. Note: Each repeated instance of an instrument or event will be displayed as a new row in the report or export file.

◦While repeating instruments/events are fully supported when using Double Data Entry with regard to data entry workflow, please see the following notice for the Data Comparison Tool: “The Data Comparison Tool does not *fully* support the Repeating Instruments and Events feature, which appears to be enabled in this project. Data can be compared (and even merged if using Double Data Entry), but it will only allow comparison and merging of Instance #1 of a repeating instrument or repeating event. Thus all other repeating data will be ignored on this page. Also, all non-repeating data can still be compared and merged.”

Repeating Instruments

Record Home Page

The grid below displays the form-by-form progress of data entered for the currently selected record. You may click on the colored status icons to access that form/event.

Choose action for record

Legend for status icons:
Incomplete | Incomplete (no data saved) | Unverified | Many statuses (all same) | Complete | Many statuses (mixed)

Study ID **1**

Data Collection Instrument	Status
Demographics	
Medications	+
Family Members	+
Visits	+
Adverse Events	+

Repeating Instruments

Medications		
1		aspirin 325mg
+ Add new		

Family Members		
1		Jane
+ Add new		

Visits		
1		160kg (11-27-2017)
+ Add new		

Repeating Instruments

Record Home Page

The grid below displays the form-by-form progress of data entered for the currently selected record. You may click on the colored status icons to access that form/event.

Choose action for record

Legend for status icons:
Incomplete | Incomplete (no data saved) | Unverified | Many statuses (all same) | Complete | Many statuses (mixed)

Study ID **1** successfully edited

Study ID **1**

Data Collection Instrument	Status
Demographics	
Medications	+
Family Members	+
Visits	+
Adverse Events	+

Repeating Instruments

Medications		
1		aspirin 325mg
2		atorvastatin 20mg
+ Add new		

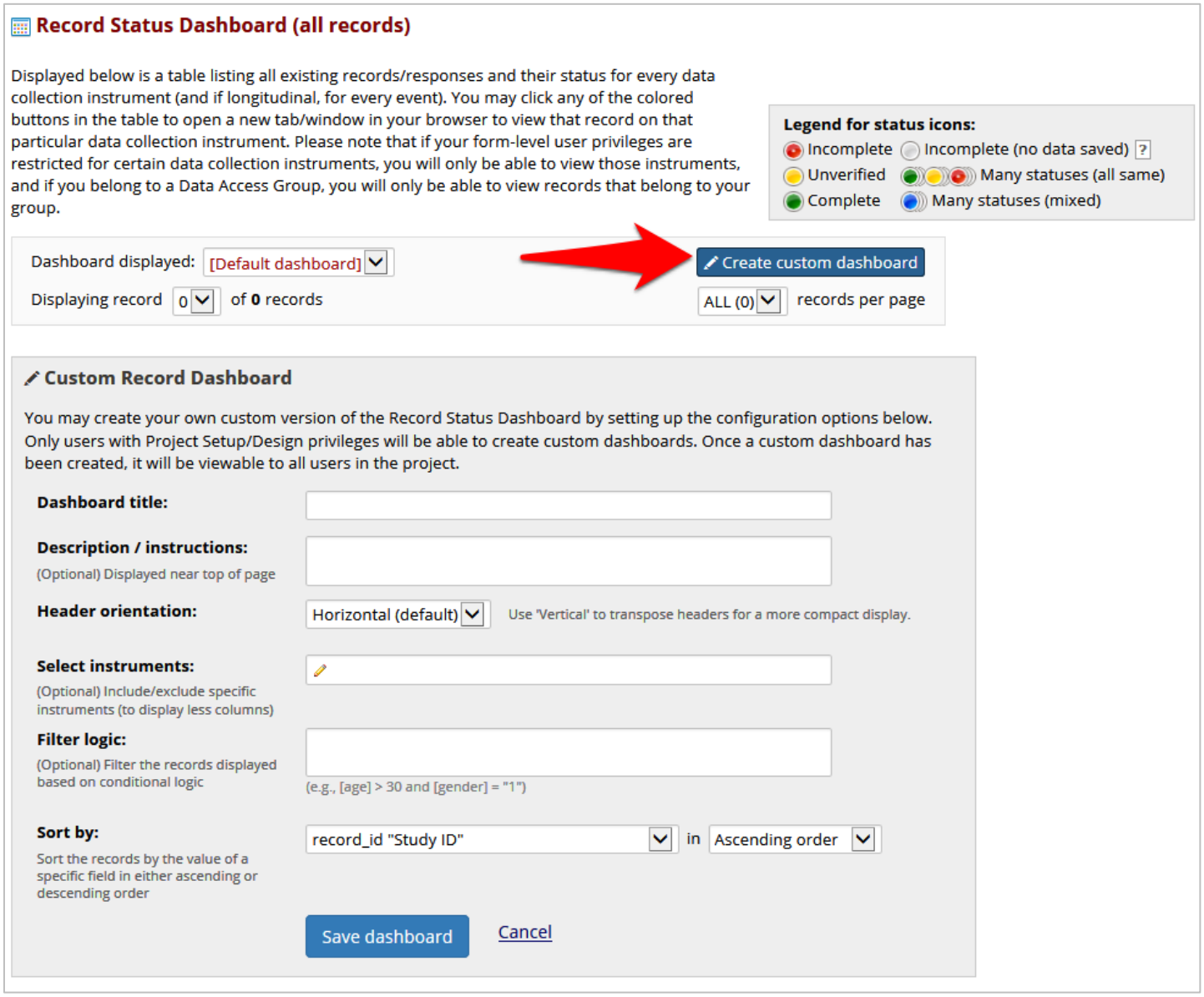
Family Members		
1		Jane
+ Add new		

Visits		
1		160kg (11-27-2017)
+ Add new		

•Custom Record Status Dashboards

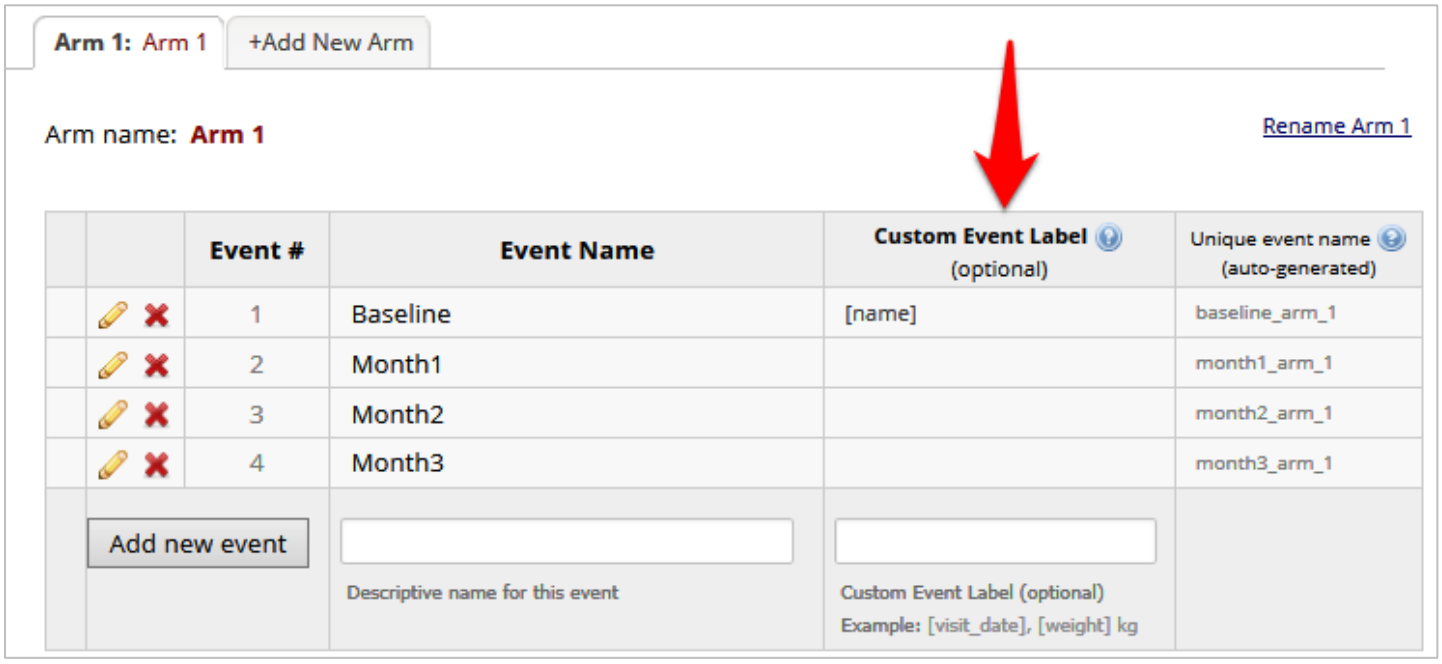
◦Users can build and save custom versions of the dashboard to customize the dashboard to their liking. Custom dashboards have many configuration options. Users can give each dashboard a title and a description/instructions, and can choose the instruments to include or exclude in the dashboard's display. Similar to building reports in REDCap, Custom Record Status Dashboards allow users to sort the records in the dashboard by another field's value, and one can set filter logic to filter the records displayed in the dashboard to a specific subset of the total records (e.g. [age] > 30 and [diabetes] = "1"). There are aesthetic controls as well, such as being able to display the dashboard headers vertically, which will transpose them 90 degrees for a more compact display on the page.

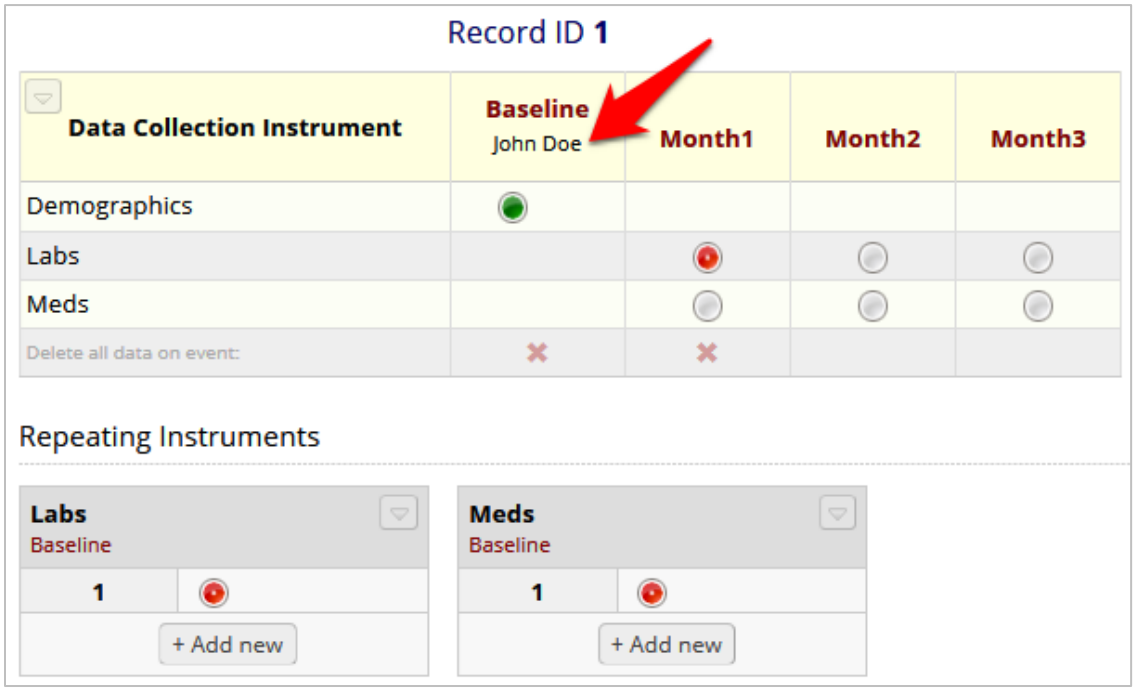
◦Only users with Project Setup/Design privileges may create custom dashboards. Once a custom dashboard has been created, it will be viewable and usable by all users in the project. Users may create as many custom dashboards as they like in a project. To create a custom dashboard, navigate to the Record Status Dashboard in a project, and click the blue "Create custom dashboard" button to get started.



•Custom Event Labels

◦Custom Event Labels can now be optionally added for any event in a longitudinal project when adding/editing events on the Define Events page. These custom labels can be used for piping data from a given event into the event's table header on the Record Home Page (i.e., Event Grid). For example, if each event represents a single visit of a person, then if you are collecting the date in a field called 'visit_date' on each event, then you can set the Custom Event Label as '[visit_date]' for all those visit events. This will provide useful context for each event when viewing all the events of the record. You can also get more advanced with the piping by using multiple fields and even static text. For example, '[visit_date], [weight] lbs'.





•New Record Home Page

Many record level actions have been moved and consolidated to a new record home page.

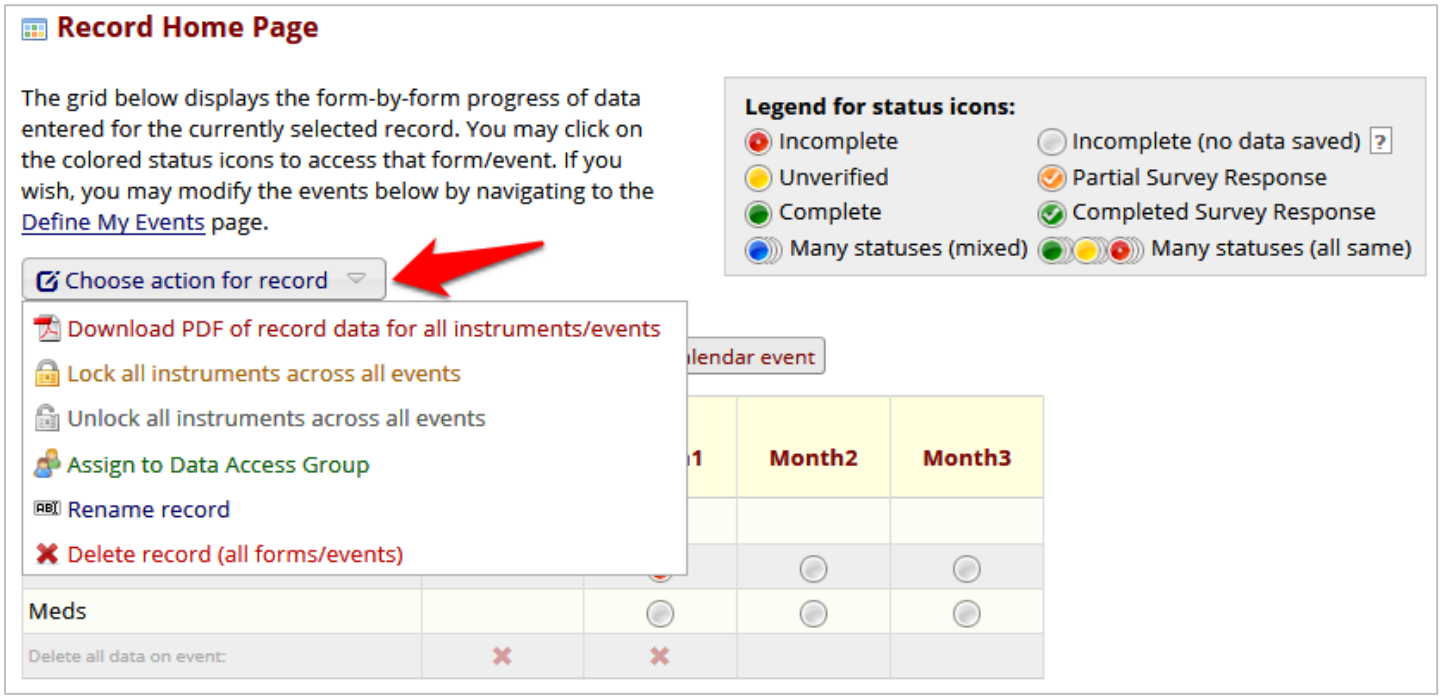
◦If a user clicks the "Add new record" button on the "Add/Edit Records" page, then it will automatically take them to the data entry form (rather than the Record Home Page) if the project contains only one instrument (or if longitudinal, only contains one designated instrument for the selected arm). This reduces clicks for the user and thus saves time.

◦Renaming a record is now performed on the Record Home page using the "Choose action for record" drop-down list rather than on the first data entry form.

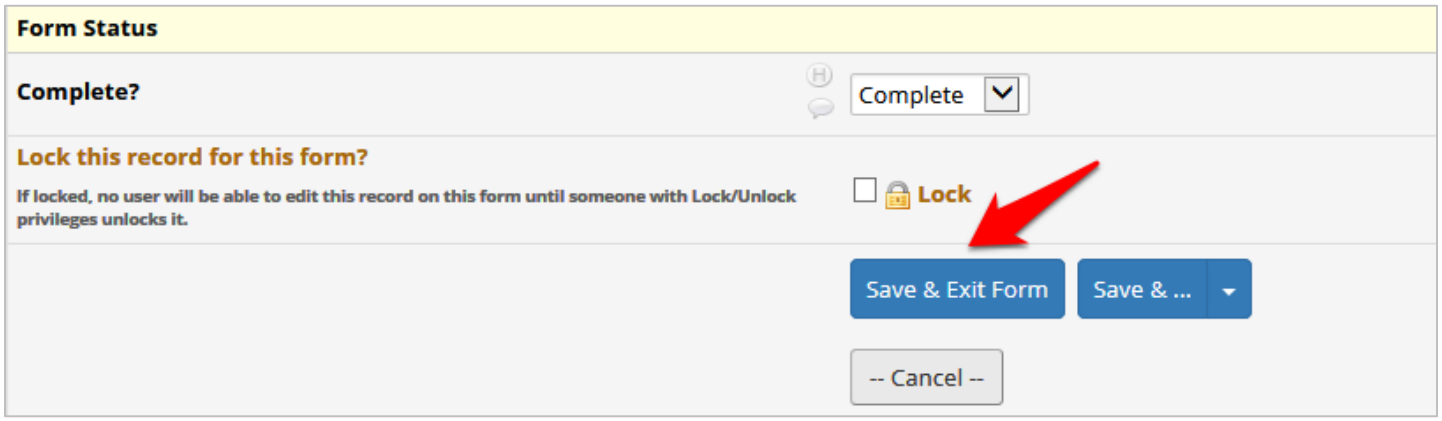
◦The method in which to delete an entire record has been changed. It is no longer done by clicking a button at the bottom of the data entry form, but rather it is done by selecting the Delete Record option in the record actions drop-down on the Record Home Page.

◦The method in which to delete an entire event of a record has been changed (this applies to longitudinal projects only). It is no longer done by clicking a button at the bottom of the data entry form, but rather it is done by clicking the red X icons now displayed in the bottom row of the status table on the Record Home Page.

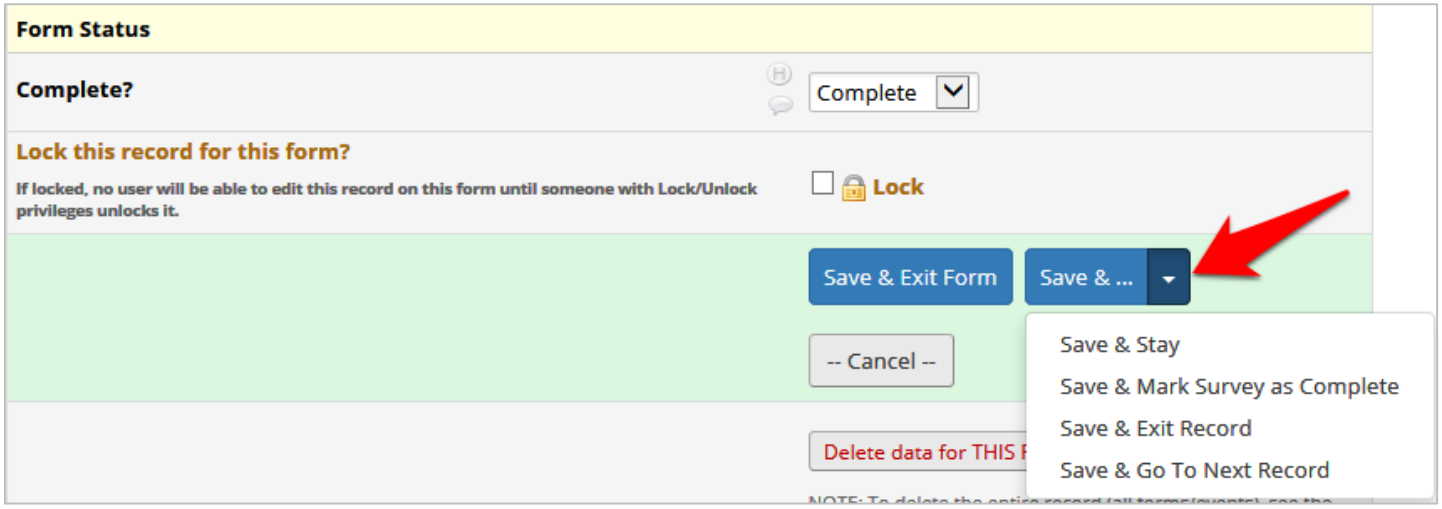
◦Assigning a record to a Data Access Group (or unassigning/reassigning a record) is now performed on the Record Home page using the "Choose action for record" drop-down list rather than on the data entry form. The only exception for this is when a record is being created on a data entry form (when the record does not yet exist), in which it will allow the user to set the Data Access Group using the drop-down list at the top right of the form. This is so a record can be assigned to a DAG at the moment of its creation. For records that have been assigned to a Data Access Group, it will now display their Data Access Group assignment under the record name on the Record Home Page.



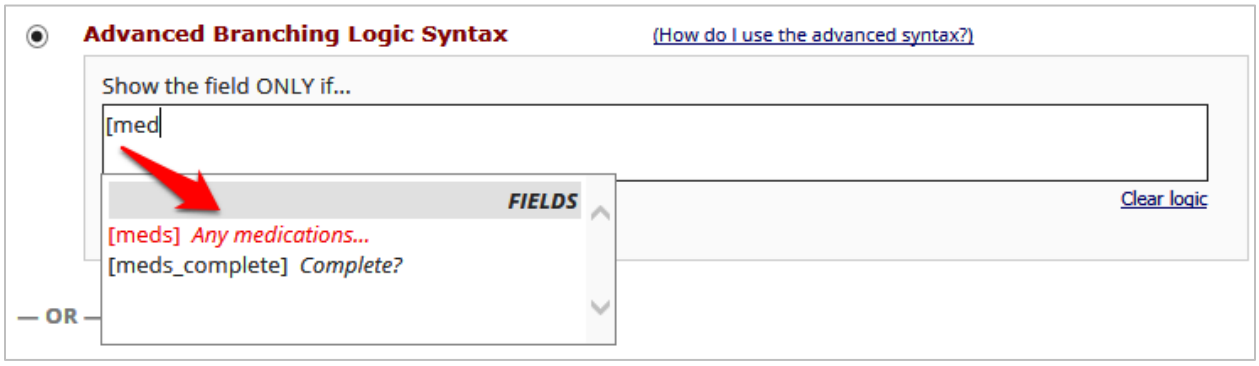
•**New "Save & Exit Form" button on data entry forms** - After being clicked, the user is taken back to the Record Home Page to select another record or create a new one.



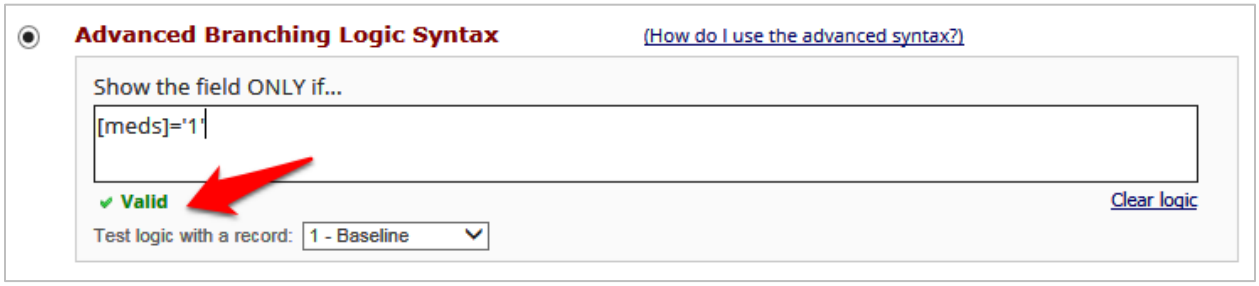
•**New "Save & Go To Next Record" button on data entry forms** - After being clicked, the user is taken to the Record Home Page for the record that follows the record just edited (according to the record order seen on the Record Status Dashboard).



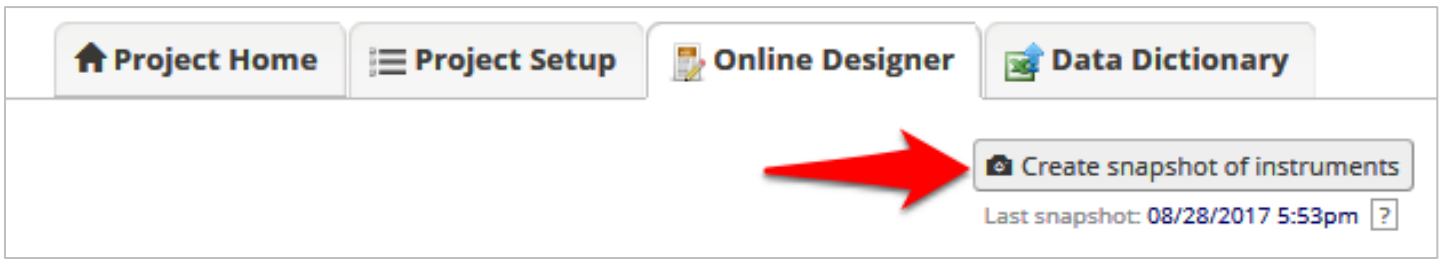
•**Field name (variable) auto-suggest** when typing branching logic, calculations, or general conditional logic (Survey Queue, Automated Survey Invitation, Data Quality rule, report filter's advanced logic). While typing logic/calculations into the text box, it will auto-suggest a REDCap variable name from your project that is clickable to inject into the text box. If the project is longitudinal, it will also suggest event names to inject unique event names.



•**Real-time validator** for branching logic, calculations, or general conditional logic (Survey Queue, Automated Survey Invitation) that allows you to run your logic/calculation on a specific record in the project, and it returns the result. For example, if typing branching logic in the Add/Edit Branching Logic popup in the Online Designer, you can select a record, and it will tell you if the field will be displayed or hidden for that record based upon the record's currently saved values. When typing calculations, it will return the actually calculated value of the field for a selected record. This makes it easier to formulate your logic and calculations so that you get them right the first time.

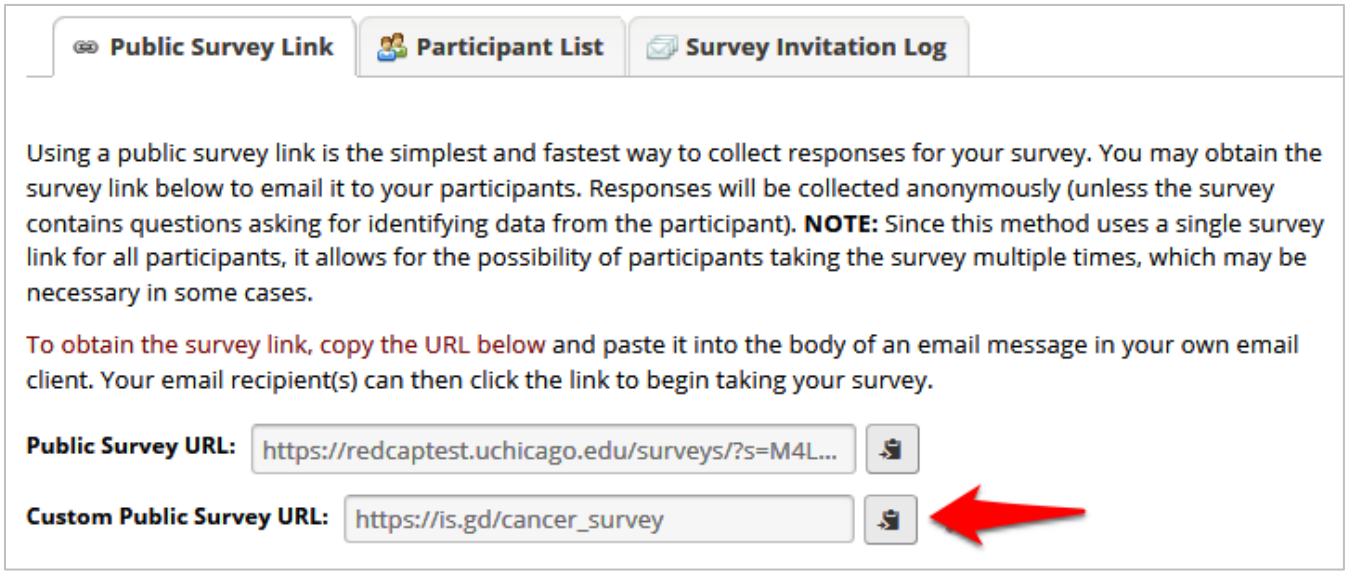


•**Data dictionary snapshot** - Users can now click a button on the Online Designer to create a snapshot of their instruments (i.e., CSV data dictionary) that gets stored on the Project Revision History page. Additionally, a data dictionary snapshot is also created automatically whenever a data dictionary is uploaded on the Data Dictionary Upload page or via the API metadata import.

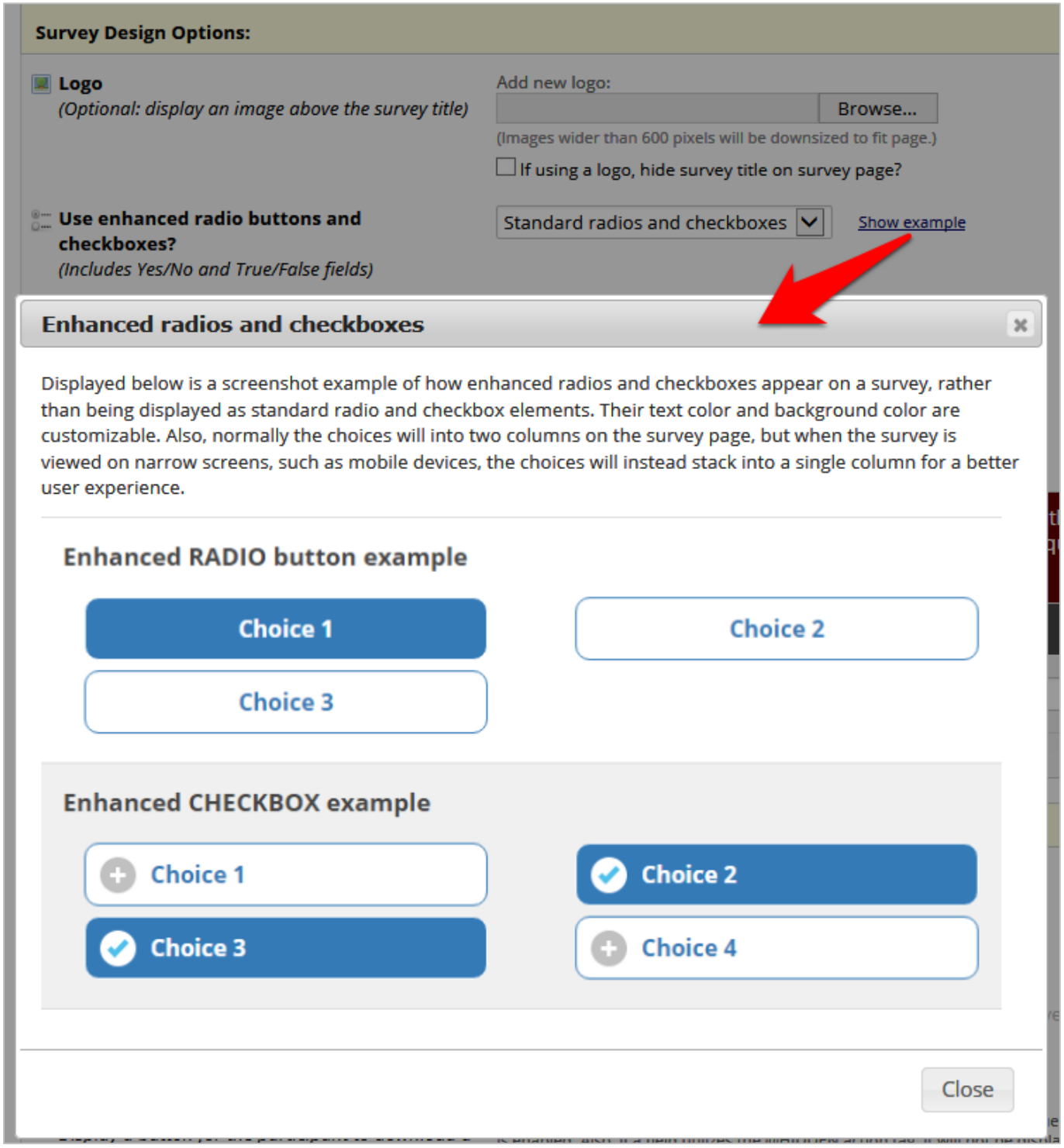


•**Text searching and ordering on reports** – Users now have a search box displayed at the top of every report where they can type text to search the report, in which it will only show the rows in the currently viewed report that match the search string that is typed. Additionally, any column in a report can have its column header clicked to sort the table according to the values in that column (in ascending or descending order).

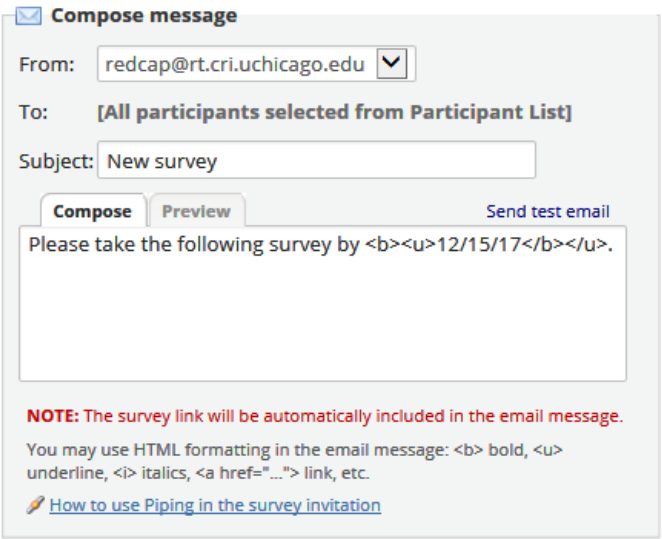
•**Create custom public survey link** - On the "Public Survey Link" page in a project that utilizes surveys, users now have the option to create their own custom public survey link that begins with "http://is.gd" (e.g., http://is.gd/diabeticsurvey), in which the custom URL will simply redirect to the public survey in their project. They may enter a desired URL, and it will check if the URL has already been taken. If not, it will store that custom URL in the project so that it is always able to be obtained on the Public Survey Link page.

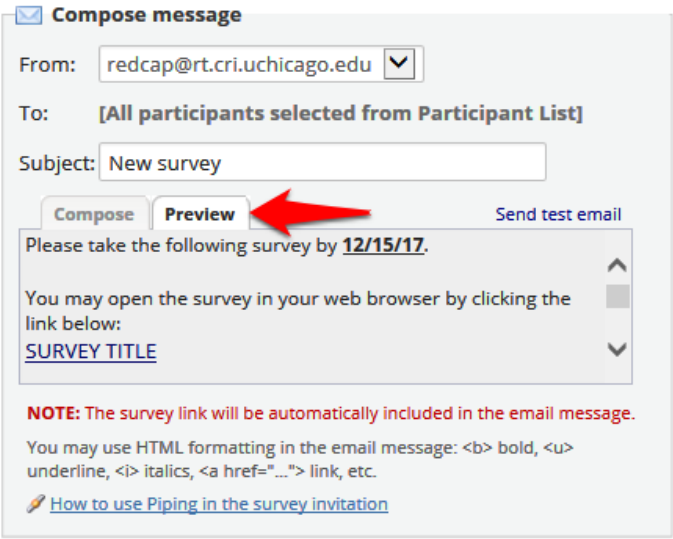


•**Enhanced radio buttons and checkboxes for surveys** - A new survey option "enhanced radio buttons and checkboxes" can be found on the Survey Settings page in the Online Designer in which a user can enable the feature so that radio buttons and checkboxes are displayed differently on the survey page, in which they appear as large animated buttons that look more modern and stylish than traditional radios and checkboxes. This new feature can be enabled for any given survey in a project where it will transform *all* radios and checkboxes on the survey into the enhanced version. Note: This feature does not work for radios and checkboxes in a matrix.

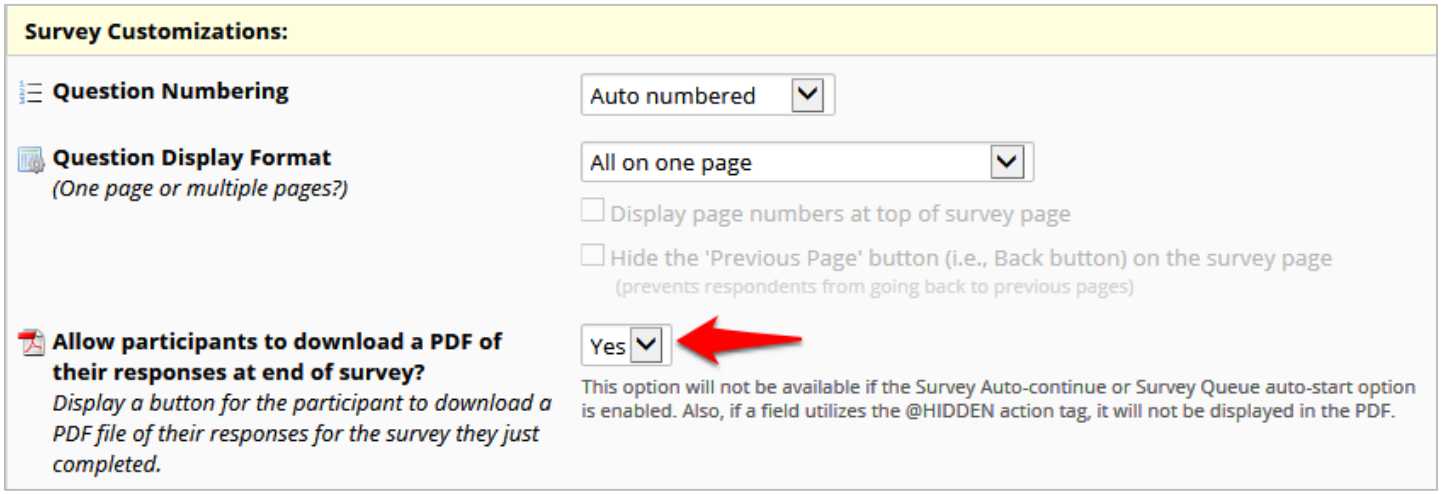


•**Preview email** - When composing survey invitations (e.g., the Participant List, Automated Survey Invitations set up), there is now a Preview option for viewing the fully-rendered HTML preview of the email that is being composed. Additionally, there is an option to send a test email to oneself in case they want to actually receive a copy the email being composed before officially sending it to others.

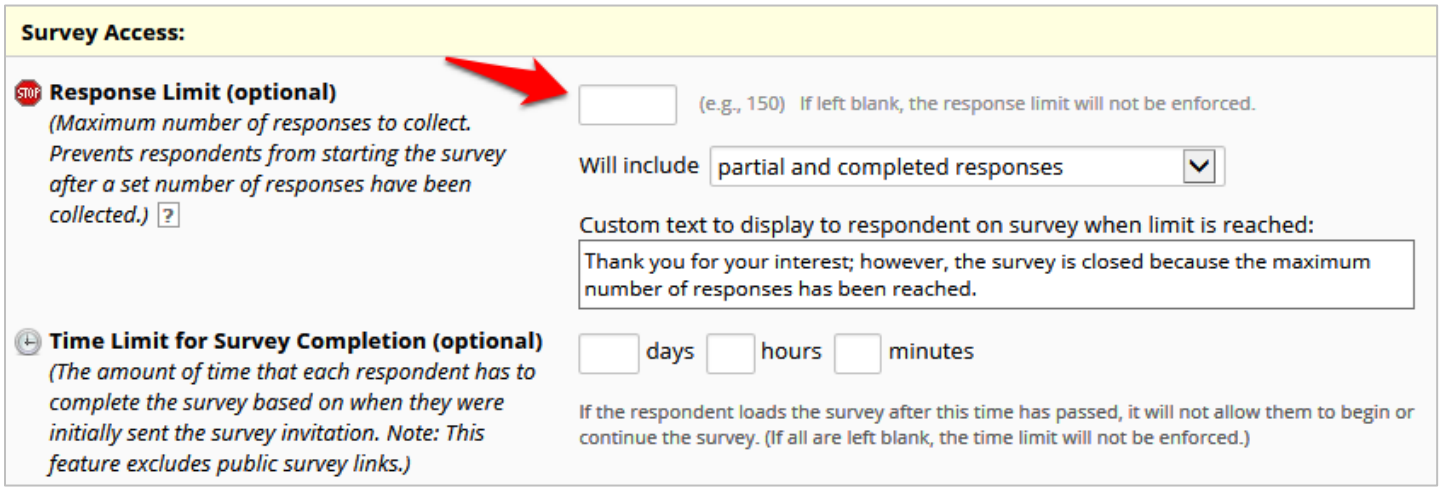




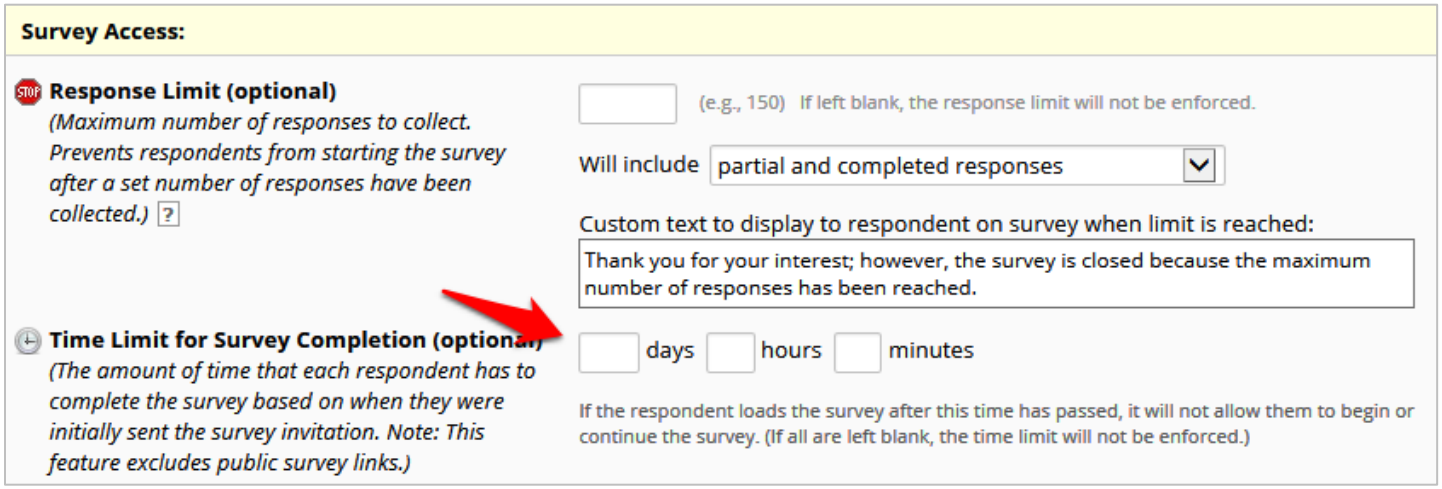
•**PDF download for survey respondents** - On an instrument's survey settings page, a user may enable the option "Allow participants to download a PDF of their responses at end of survey?". This option will display a button for the survey participant to download a PDF file of their responses for the survey they just completed. Users may also download this same copy of the PDF since it has been added as a new PDF download option at the top of data entry forms.



•**Response Limit for surveys** - Users may set a response limit for any given survey to prevent respondents from starting the survey once a set number of responses have been collected. Note: It can be set so that the response count included either completed responses only or both partial and completed responses. Users may also set custom text to be displayed to respondents on the survey page when the response limit has been reached.



•**Time Limit for Survey Completion** – Users may set the amount of time (in days, hours, and/or minutes) that each respondent has to complete a given survey based on when they were initially sent the survey invitation. Note: This feature excludes public survey links. When enabled, a new column is displayed on the Participant List where it denotes if a participant's survey link has expired and also displays the expiration time if you hover over the icon. If the icon is clicked, the user can permanently override the link expiration time by setting it further in the future (to give the respondent more time), or else to expire the link sooner (or even immediately).



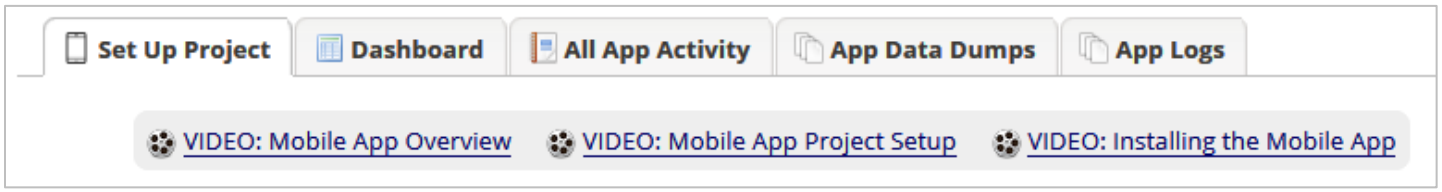
•Better device management for the REDCap Mobile App

The Mobile App page in a project now contains better methods for keeping track of the activity of the mobile app used on many devices at a time for a single project.

◦Each device that has initialized the project in the mobile app will be displayed in a device list on the page. It will initially display the device's UUID, but each can be given their own nickname (e.g., Kenya tablet, Rob's iPhone). The nickname will be displayed on the Mobile App page's activity tables, dashboard, and file download tables so that users may track which device is doing what.

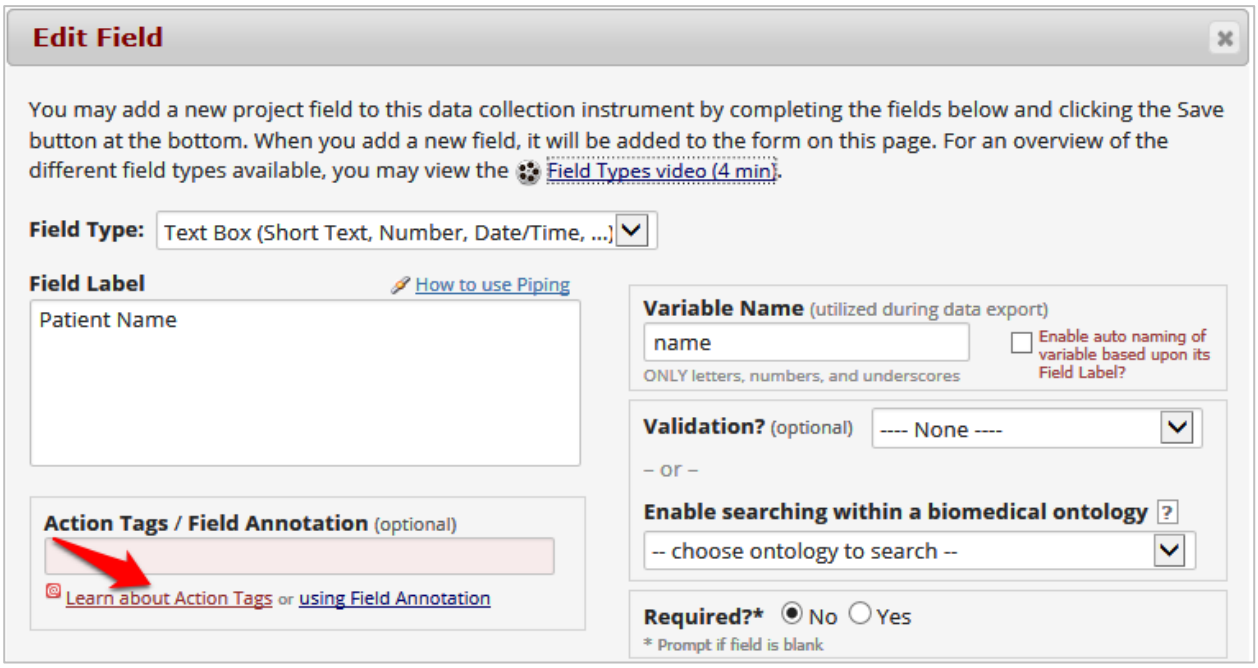
◦Each device can be blocked, if needed, without having to revoke the API token for many (or all) of your devices. Blocking behaves similar to revoking a user's API token except it allows you to do it on a per-device basis. You might want to block a device if it were stolen, for instance. This helps protect your data from being corrupted or from falling into the wrong hands.

◦The mobile app log files can now be viewed on the Mobile App page without having to download them to view them.



NEW ACTION TAGS:

Action Tags are an excellent way to customize the data entry experience for surveys and forms. They are special terms that begin with the '@' sign that can be placed inside a field's Field Annotation when adding or editing a field. Each action tag has a corresponding action that is performed for the field when displayed on data entry forms and survey pages.



Below is a list of NEW action tags, added to the previous list of action tags.

•**@CHARLIMIT** - Sets the maximum number of characters that can be entered into a Text field or Notes field, and also displays the number of characters remaining. The format must follow the pattern @CHARLIMIT=??, in which ?? is the desired max character count (alternatively, the number value can be inside single or double quotes). NOTE: This action tag cannot be used at the same time as @WORDLIMIT for the same field. NOTE: This action tag does *not* get applied during any data imports (via API or Data Import Tool) but only operates when viewing survey pages and data entry forms.
•**@HIDEBUTTON** - Hides the 'Now' or 'Today' button that is typically displayed to the right of date, time, and date/time fields.

•**@HIDECHOICE** - Hides one or more choices of a multiple choice field. This action tag is useful if you wish to retire a particular choice after utilizing it for a while in data collection, thus allowing you to hide the choice from that point after without orphaning any of the choice's data, which would happen if you simply deleted the choice. The format must follow the pattern @HIDECHOICE='??', in which the coded values should be inside single or double quotes for the choice(s) you wish to hide. If more than one choice needs to be hidden, then provide all the coded values separated by commas. For example, to hide the choice 'Monday (1)', you would have @HIDECHOICE='1', but if you wanted to additionally hide 'Tuesday (2)', you would have @HIDECHOICE='1,2'. NOTE: If the hidden choice has already been selected for a given record, then the choice will not be hidden on the survey or form for that record/event. NOTE: Hidden choices will still appear in reports and data exports. NOTE: This action tag can only be utilized for the following field types: Checkbox, Radio, Drop-down, Yes-No, and True-False. NOTE: This action tag works only in limited fashion with a matrix of fields, in which it will simply hide the checkbox/radio but still display the column for that choice in the matrix.

•**@NONEOFTHEABOVE** - Allows for the designation of a checkbox choice to be a 'none of the above' option, thus ensuring that no other choices are checked if that one choice is selected. This means that if that particular option is selected, it will alert the user that all other checked-off choices will be unchecked. And if the 'none of the above' option is already checked when the user checks off another choice, it will automatically uncheck the 'none of the above' option. This action tag makes it possible to have a 'none of the above' option without the risk of users mistakenly having other choices selected at the same time. The format must follow the pattern @NONEOFTHEABOVE=??, in which ?? is the coded value of the 'none of the above' checkbox choice - e.g., @NONEOFTHEABOVE=98. Alternatively, it is possible to set multiple options as a 'none of the above' option at the same time, in which the coded values must be comma delimited inside single or double quotes - e.g., @NONEOFTHEABOVE='45,99'. This is useful for certain situations, such as if you have a 'none of the above' option and also have a 'refuse to answer' option, thus allowing either of those to be the only option that can be selected at a time. NOTE: This action tag can only be utilized by Checkbox fields.

•**@PLACEHOLDER** - Is used to specify a short hint that describes the expected value of a Text field or Notes field (e.g. a sample value or a short description of the expected format). The placeholder is displayed inside the field before a value is entered. The format must follow the pattern @PLACEHOLDER='????', in which the text to be displayed should be inside single or double quotes. This action tag is compatible with all browsers, including Internet Explorer 8 and 9.

•**@RANDOMORDER** - Randomizes the order of multiple choice field options as displayed on survey pages and data entry forms, in which their order will be different each time the page is loaded. NOTE: This action tag can only be utilized for the following field types: Checkbox, Radio, Drop-down, Yes-No, and True-False. This tag also works for enhanced radios and checkboxes on surveys.

•**@WORDLIMIT** - Sets the maximum number of words that can be entered into a Text field or Notes field, and also displays the number of words remaining. The format must follow the pattern @WORDLIMIT=??, in which ?? is the desired max word count (alternatively, the number value can be inside single or double quotes). NOTE: This action tag cannot be used at the same time as @CHARLIMIT for the same field. NOTE: This action tag does *not* get applied during any data imports (via API or Data Import Tool) but only operates when viewing survey pages and data entry forms.

•**@SYNC-APP** - Can be used only for File Upload and Signature fields. If the project is initialized in the REDCap Mobile App, this will cause any image files uploaded to a record to be sent to the app so that they are viewable in the app when editing the record. NOTE: For use only in the REDCap Mobile App.

•**@APPUSERNAME-APP** - In the REDCap Mobile App, this action tag sets a field's value to the app username of the current mobile app user - i.e., their username in the mobile app, which is not necessarily the same as their REDCap server username that can be captured using @USERNAME. NOTE: For use only in the REDCap Mobile App.

IMPROVEMENTS:

•The App Data Dumps tab on a project's REDCap Mobile App page now displays the records and the uploaded file list in a more manageable fashion for any emergency data dumps that are listed on that page.

•When the Data Resolution Workflow module is enabled for a project, the Resolve Issues page now has an Export button to allow users to download the data resolution dashboard as a CSV file. The page also allows users to view "all status types" using the first filter drop-down in the dashboard table.

•The Data Search feature on the "Add/Edit Records" page performs slightly better regarding the ranking of search results returned, in which it now lists exact word matches first in the list of results. Additionally, the Data Search feature now returns a maximum of 25 matching values, whereas previous versions returned a maximum of 15.

•Invitation reminders are now displayed by default in the Survey Invitation Log. In previous versions, the "Display invitation reminders?" checkbox would have to be checked in order to see the reminders. Not initially seeing the reminders would cause some users to mistakenly assume that nothing was scheduled.

•If a record has any calendar events (included scheduled events) that will occur in the next 7 days, it will display a button above the table on the Record Home Page. The button will note how many calendar events there are for the current record in the 7 days, and when clicked, it will display the next 7 days worth of calendar events in agenda mode view.

•If a record has any survey invitations that are scheduled to be sent in the next 7 days, it will display a button above the table on the Record Home Page. The button will note how many upcoming invites are scheduled for the current record in the 7 days, and when clicked, it will display a table of the send time and survey title for the next 7 days worth of scheduled invites.

•The user auto-suggest on the User Rights page no longer returns suspended users when searching for users to add to the project.

•Alt text was added to the increase/decrease font images displayed at the top of the survey page.

•Added a "Cancel" button to the bottom of the Data Dictionary Upload page and Data Import Tool to more easily allow users to start over when halfway through the upload process.

•When using both Data Access Groups and Double Data Entry in a single project and merging two records that both belong to the same DAG, previous versions did not automatically assign the merged third record to the same DAG. It now automatically assigns the new third record to the same DAG in that case.

•On the Logging page in projects that have Data Access Groups, a user that is not assigned to a DAG will be able to filter the logging results by records in a DAG. Below the "Filter by record" drop-down at the top, it will display a "Filter by records in a DAG" drop-down that is viewable only by users not currently assigned to a DAG.

•When creating/editing reports in projects that have repeating instruments, a new option has been added to Step 3 (filtering): "Show data for all repeating instruments for each record returned?". This option is very similar to the "Show data for all events for each record returned" option found when editing reports in longitudinal projects in which it applies record-level filtering as opposed to row-level filtering ("row" referring to the rows in the report table displayed). This new option provides greater precision for controlling filters used on data in repeating instruments. For example, if a filter references a field from a non-repeating instrument, then it might filter out all data from repeating instruments and thus not display them in the report, which could be confusing. But with this option checked, it will return all repeating instances (as separate rows) for any record that matches that filter. In this way, it allows you to apply the filter to non-repeating fields while still including fields from repeating instruments in your report. This was not possible in previous REDCap versions.

•When deleting a project while in production, if the project contains no records, it will delete the project immediately rather than sending a request to the REDCap Administrator to delete it. In previous versions, an

Administrator would have to delete production projects regardless of whether the project contained records or not.

•Added a note in the "Compose survey invitation" popup on the data entry form to make users aware that if they manually enter an email address into the "To" field for the survey invitation, it is a one-time use only and that any other invitations sent out at other times will instead go to the email address found in the Participant List for that participant. No functionality has changed regarding this, but some users were not aware of this behavior.
•When exporting data to Stata, it now uses syntax for newer versions of Stata. This also includes declaring datetimes more properly than in previous versions of REDCap.

•The survey options at the top of a data entry form now include a new option “Log out + Open suvey”, which will simultaneously open the survey in a new browser tab while logging out the REDCap user in the current tab. This makes it easier for users to log out of their REDCap session in case they walk away from the computer while a participant takes the survey, thus ensuring that the participant is not able to go into the first tab and access the user’s REDCap account and projects.

•Better protection against accidentally overwriting survey responses when opening surveys from a data entry form. When clicking the "Open survey" option at the top of a data entry form, it will display a popup on the data entry form to inform the user that it is recommended that they leave the page without saving it in order to avoid overwriting or erasing the survey responses that had been collected in another browser tab on the survey page.

•Added "language" option for users submitting an instrument to the REDCap Shared Library so that they can specify the language of their instrument's text. Note: Instruments in the Shared Library are now searchable by language.

•The cell borders where added back to the report table, Record Home Page table, and Record Status Dashboard table for better readability of the table contents.

•For longitudinal projects containing multiple arms, the Record Status Dashboard now displays each arm separately in a tabbed interface rather than trying to fit all arms in a single table, which typically is not the best way to view multiple arms of records.

•Checkbox fields on reports are now displayed better with their field label spanning all the choices as a row above all the choices and displaying just the choice text and variable in the individual choice column headers on the second row of the header. This groups the checkbox options together much better and is much more intuitive to read and interpret.

•The Group ID number for each Data Access Group (DAG) is now displayed in the DAG table on the Data Access Groups page in a project. The Group ID number is the number that is automatically generated by REDCap and is automatically prepended with a dash/hyphen to the record name when a user assigned to a

DAG is creating a new record. The Group ID number is now displayed in the table on the page so that users are aware of what each DAG's Group ID number is.

•Question numbers displayed on surveys are now displayed as right-aligned, whereas in previous versions they were left-aligned. This is to reduce the gap between the question number and the question text for a more readable and intuitive display.

•When opening the Field Comment Log, it now places the user's cursor inside the text box automatically as a convenience to the user.

•When a user is on a data entry form or survey and hovers over the choice label of a radio button field, the cursor changes to the "hand" cursor to indicate that they can click on the label to select the choice rather than thinking they have to click the radio element itself.

•The results displayed from executed rules on the Data Quality page now display the field label above the variable name and value. This provides better context for users who might not know the variable names.

•A PDF of record data for all instruments/events for a given record can now be downloaded from the "Choose action for record" drop-down on the Record Home Page if the user has Data Export privileges.

•A zip file containing all uploaded documents (or signature files) for an individual record can now be downloaded from the "Choose action for record" drop-down on the Record Home Page if the user has Data Export privileges.

•File Upload fields that are displayed on reports will no longer display the text "[document]", but will instead provide a "Download" button so that the user can actually download the file from the report.

•When the user clicks the "Save & Stay" button (formerly the "Save and Continue button) on a data entry form, it now says "Record XXXX was successfully edited" at the top of the page to denote that the form was saved.

•The Data Dictionary Codebook now displays the unique form name next to the name of the instrument in the gray instrument header in the table.

•Slider fields can be displayed as vertical by setting their Custom Alignment to right-vertical (RV) or left-vertical (LV).

•A field's Section Header and Field Annotation are now displayed in the Codebook for the project.